ALSAN 573 Installation Guide

Liquid Applied PMMA Bridge Deck Waterproofing

Waterproofing



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01. Introduction

1.1. Purpose of this document

The purpose of this installation guidelines is to define the conditions for application and inspection of **ALSAN 573** liquid waterproofing PMMA resin based system used on bridges, viaducts and similar elevated civil engineering structures. The waterproofing membrane is available in both manual and cold applied sprayable grades. It can be applied to concrete, steel and other solid substrates such as timber and aluminium using a range of special primers.

The proposed solutions can be used on main trafficked decks (under protection), sidewalks, cycle paths, railway decks (under ballast or exposed) and for all exposed non trafficked areas.

ALSAN 573 meets the requirements of the EAD 030675-00-0107 (formerly ETAG 033) European Standard. This system also complies with several other international standards.

The authorised Waterproofing Contractor supplies and applies the waterproofing materials and a possible wearing layer over the entire surface of the structure previously accepted by the Project Manager and / or the local authority.

The Contractor incorporates any accessories (joints, rainwater downpipes, etc.) to complete the waterproofing works.

1.2. Application

This waterproofing system is designed for the following types of structure:

- road and rail civil engineering structures (bridges, culverts or similar)
- viaducts
- rail bridges and external tunnel structures under ballast/backfill
- podium decks and top slabs
- parking decks
- elevated storage areas, etc.

1.3. Overview of the waterproofing system

This system is applied cold, without any reinforcement fleece and with adequate mechanical protection. It is suitable for all types of traffic.

ALSAN 573 is a liquid applied waterproofing system based on PMMA resins comprising of the following components:

- a primer or a bonding coat consisting of:
  - → on porous concrete substrates, **ALSAN REKU Z71** pore-filler, followed by **ALSAN REKU P70** or **ALSAN REKU P72**.
  - → on dense and low porosity concrete substrates, **ALSAN REKU P72** in one or two coats.
  - → on steel substrates, **ALSAN REKU 04**
- one to two coats of **ALSAN 573** waterproofing resin (consumption depends on the substrate, see table in §4) manually or spray applied.
- a hot-melt adhesive tack or bond coat, **ALSAN CONNECT R**, to safely and intimately bond the hot asphalt wearing course to the membrane.
- Other optional protection/finishes:
  - → No additional surface coating would be required for non-trafficked areas (e.g. concrete sideways or central reserve protection, details, etc.). **ALSAN 573** is fully UV resistant, although, for improved aesthetic finish on exposed / non-trafficked elements, a sealer such as **ALSAN 970 F** can be applied on the membrane.
  - → **STRATOS 71** or **STRATOS 72** will offer a textured resin surfacing when necessary.
  - → Specific mat protections may be required when ballasted.

ALSAN 573 serves as the primary waterproofing layer in each of the below traffic categories.

Liquid Waterproofing Systems	Traffic	Trafficked Surfacing
Class A	HGV, LV	Asphalt overlays
Class B	Pedestrians, cyclists	**STRATOS 71** or **STRATOS 72** (textured resin surfacing)
Class C	No protection or traffic	**ALSAN 970 F** (optional finishing coat)
Class D	HGV, LV	**STRATOS 71** or **STRATOS 72** (textured resin surfacing)
Class E	All traffic types	Concrete protection (optional resin surfacing)
Class F	Ballasted rail / Underground backfill	With or without protection as per backfill materials (optional ballast mat or heavy geotextile)

02. Preparation and substrate

The condition of the substrate is an essential factor for the success of the waterproofing work. In fact, the degree of adhesion of the resin to its substrate is essential to limit non-adherent areas and to prevent debonding at the substrate/resin interface.

The procedures described below provide information on the substrate's conformance with standards and different preparation methods.

2.1. Substrate types

The different types of substrates to which the ALSAN 573 systems can be applied include but are not limited to:

- concrete surfaces (free form, formed, precast)
- hydraulic mortar or resin mortar surfaces (screeds, haunches)
- metal surfaces

In this document, only concrete and steel substrates will be addressed, as hydraulic mortar and resin mortar surfaces will be treated in the same way as concrete substrates.

2.2. Preparation of Concrete Substrate

2.2.1.Condition of the substrate

The Civil Engineering Contractor may use different methods to build the structure, but it is essential that final substrate for waterproofing is finished and prepared in conformance with a set of local, national or international standards, as required by the Client and stated in the project specification.

The main criteria to achieve both a structurally sound and even surface, in the absence of any applicable local or international standard setting the guidelines, is as follows:

- Finished texture and profile: the finished surface of concrete shall not deviate from the required profile by more than 10mm over a 3m gauge length or have any abrupt irregularities more than 3mm.
- Tensile bond adhesion to substrate (including any screeds): a minimum tensile bond adhesion requirement of > 1.0 MPa shall be applied.
- Maximum water content in the substrate: a maximum moisture content in concrete of 5 % shall be applied.
- Minimum concrete curing time: 14 days or as permitted by the Engineer.

The substrate must be free of any loose or friable material such as laitance, curing compounds, hardened grout, earth, clay, grease, dust or site soil.

To achieve the above criteria, the concrete substrate would generally need to be shot-blasted (horizontal surfaces) or mechanically prepared (other surfaces) to remove all non-cohesive materials and ensure evenness.

If there is a long period of time between the preparation phase and the application of the waterproofing system, it is advisable to check that the substrate is still clean.

Cleaning with a high-pressure water jet is generally not recommended.

2.2.2. Shallow substrate repair with a scratch coat

For blow holes, small flash sets, localised undulation or surfaces that have been milled, a scratch coat using a mixture of **ALSAN REKU P72** and sand is recommended. This technique provides several advantages:

- Fast completion - **ALSAN 573** resin can be applied approx. 1 hour after application of the scratch coat. No further priming is required.
- Scratch coat can be applied over a wide range of temperatures
- Scratch coat can be applied at as substrate profile variation between 1.5 – 5.0 mm
- There shall be no feather edging of the scratch coat
- Scratch coat provides a tough and non-porous substrate for the application of **ALSAN 573**.

ALSAN REKU P72 is a two-component, fast-setting PMMA resin that can be either be used as a primer, or a scratch coat when mixed with silica as described below.

To prepare the scratch coat, mix **ALSAN REKU P72** with **ALSAN GC Type 1** (0,1 – 0,3 mm). To obtain a mixture that is easy to work with, the optimal quantity is 2 – 3 kg of silica per 1 kg of resin. This proportion can be adjusted slightly to suit the profile, spread and depth of undulation on the substrate, with some additional care.

After mixing **ALSAN REKU P72** and **ALSAN GC Type 1,** adding the **ALSAN CAT** catalyst in recommended dosage (see §3.2.2) triggers the reaction.

The mixture must then be spread on a primed (with **ALSAN REKU P72** primer), clean and dry substrate with a squeegee within 10 minutes of the addition of catalyst. The surface can be overlaid in approx. 1 hour after application.

The scratch coat is primarily designed for re-profiling of rough and undulated substrate and isolated local repairs to level out the substrate. For deeper local repairs, the surface area is limited to 500 cm^2, built in stages of no more than 5mm per layer. This is to prevent any shrinkage and spalling due to thermal expansion differential between the scratch coat and concrete substrate.

The scratch coat can remain exposed to UV light for several days while waiting for waterproofing to be applied. After the reaction has ended, rain has no impact on the primer or the scratch coat.

2.3. Preparation of Steel Substrate

2.3.1. Condition of the substrate

The Civil Engineering Contractor builds the structure and generally prepares the waterproofing substrate to achieve an even surface aspect and the following minimum properties:

- Flatness: adjustment after assembling the orthotropic deck with a plate thickness t must meet the unevenness, connection gradient, flatness tolerance and weld allowance criteria specified in a relevant national or international standard appropriate to the location of the bridge structure (e.g. European Norm EN 1090-2+A1)
- Removal of all sharp edges, weld scrapings, burrs
- Surface preparation to ISO 8501-1 (i.e. Swedish Standard Sa 2.5)
- Visual-tactile assessment of the steel profile using an appropriate method such as described in EN ISO 8503-2

2.3.2. Repairing substrates

Metal substrate compliance is generally the responsibility of the Civil Engineering Contractor.

2.4. Substrate acceptance

Substrate acceptance is conducted by the Engineer jointly with the Main Contractor and the Waterproofing Applicator. Acceptance is stated in a report.

NB: *substrate acceptance by the Project Manager before the application of the primer/bonding coats is generally subject to a hold point. Only the release of this hold point allows the Waterproofing Contractor to begin application.*

Any work required before applying the coating –as may be requested in the acceptance report to bring the substrate into compliance with contract specifications – is carried out by the Civil Engineering Contractor. However, this work may be subcontracted to the Waterproofing Contractor.

A distinction must be made between areas subject to visual inspection to ensure their conformity and those which cannot be assessed by visual observation alone.

These include:

- The compatibility of concrete components (e.g. additives) or levelling mortars with the waterproofing coating, poor cohesion of the concrete or mortars;
- Curing compounds that could possibly remain on the concrete.

The Civil Engineering Contractor informs the Project Manager of the products it uses and gives an opinion as to the complete removal of the curing compounds it has used.

The table below describes the interface between the Civil Engineering Contractor and the Waterproofing Contractor. It lists the main key points that must be examined during acceptance operations.

a) Information to be provided by the Civil Engineering contractor

On concrete substrates

- The compounds used in the substrate are compatible with the waterproofing coat:
  - Cement Additives
  - Levelling mortars or micro concrete resins
  - Other (specify)
- The concrete is more than 14 days old
- Maximum moisture content is less than 5 %.
- The substrate has been prepared:
  - Non-cohesive parts have been removed
  - Horizontal surfaces have been shot-blasted
  - Surface levelling has been applied
- Concrete cohesion (including in areas repaired with mortar) > 1.5 MPa

On steel substrates

- Anti-corrosion treatment
- The substrate has been prepared.

b) Points to be visually inspected

- Gradients allowing water to drain off without retention (all substrates).
- Laitance has been eliminated (concrete substrates).
- Injection or bonding product run-off has been eliminated (concrete substrates)
- Staining (oil, grease, etc.) has been eliminated (all substrates).
- Traces of rust have been eliminated (steel substrates).
- Reinforcements protruding from the concrete have been trimmed and levelled to the concrete surface (concrete substrates).
- Roughness (scratches, etc.) have been eliminated (all substrates).
- Holes with a depth of ≥ 10 mm and a surface area of ≥ 40 cm^2 (shoeprints, plank marks, etc.) have been filled in (concrete substrates).
- Edges of the protruding corners have been rounded or chamfered (10 x 10 mm minimum) (concrete substrates).
- The inside edges of internal angles are clean and free from material build-up (all substrates).

On completion of the checks and before the waterproofing works commence, the Waterproofing Contractor must carry out suitability tests to check the compatibility of the substrate with the adherent coating. In the absence of any local and/or international standards superseding the test guidelines, random spots will be selected for pull-off with a minimum of six tests per every 500 m^2. For smaller bridges a minimum of six tests shall be performed. The tests shall be carried out as per ISO 4624 or an equivalent local standard.

If the quality of the substrate is challenged during the acceptance phase, the Civil Engineering Contractor will carry out the necessary appropriation work with the agreement of the Project Manager.

ALSAN REKU P72 can be made into a scratch coat with the addition of fine silica sand to repair concrete substrates (see §2.2.2).

After these repairs, the Waterproofing Contractor may carry out the suitability tests.

03. Application

3.1. Application conditions

Normal application conditions are:

For primers **ALSAN REKU Z71**, **ALSAN REKU P70**, **ALSAN REKU P72** and **ALSAN REKU 04**:

- Temperature: from +3°C min. to +30°C and minimum 3 °C above the dew point.
- Relative humidity: 90% max.

For **ALSAN 573** (manual and sprayed versions):

- Temperature: from -10°C min. to +35°C and minimum 3 °C above the dew point.
- Relative humidity: 90% max.

For **ALSAN CONNECT R:**

- Temperature: from -10°C min. to +35°C and minimum 3 °C above the dew point.
- Relative humidity: 90% max.

For **STRATOS 71** or **STRATOS 72**:

- Temperature: from -10°C min. to +35°C and minimum 3 °C above the dew point.
- Relative humidity: 90% max.

Application under rainfall is prohibited.

In strong wind, spray application must be ruled out.

For exceptional application conditions, please contact SOPREMA Technical Services team (technical@soprema.co.uk).

NB: *Substrate temperature is taken using a contact thermometer. After measuring relative humidity with a hygrometer, the relevant dew point is then determined by simple reference to the table below:*

Air Temp (°C)	Relative Humidity													
	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%
-10	-23.2	-21.8	-20.4	-19.0	-17.8	-16.7	-15.8	-14.9	-14.1	-13.3	-12.6	-11.9	-10.6	-10.0
-5	-18.9	-17.2	-15.8	-14.5	-13.3	-11.9	-10.9	-10.2	-9.3	-8.8	-8.1	-7.7	-6.5	-5.8
0	-14.5	-12.8	-11.3	-9.9	-8.7	-7.5	-6.2	-5.3	-4.4	-3.5	-2.8	-2.0	-1.3	-0.7
+2	-12.8	-11.0	-9.5	-8.1	-6.8	-5.8	-4.7	-3.6	-2.6	-1.7	-1.0	-0.2	-0.6	1.3
+4	-11.3	-9.5	-7.9	-6.5	-4.9	-4.0	-3.0	-1.9	-1.0	0.0	0.8	1.6	2.4	3.2
+5	-10.5	-8.7	-7.3	-5.7	-4.3	-3.3	-2.2	-1.1	-0.1	0.7	1.6	2.5	3.3	4.1
+6	-9.5	-7.7	-6.0	-4.5	-3.3	-2.3	-1.1	-0.1	0.8	1.8	2.7	3.6	4.5	5.3
+7	-9.0	-7.2	-5.5	-4.0	-2.8	-1.5	-0.5	0.7	1.6	2.5	3.4	4.3	5.2	6.1
+8	-8.2	-6.3	-4.7	-3.3	-2.1	-0.9	0.3	1.3	2.3	3.4	4.5	5.4	6.2	7.1
+9	-7.5	-5.5	-3.9	-2.5	-1.2	0.0	1.2	2.4	3.4	4.5	5.5	6.4	7.3	8.2
+10	-6.7	-5.2	-3.2	-1.7	-0.3	0.8	2.2	3.2	4.4	5.5	6.4	7.3	8.2	9.1
+11	-6.0	-4.0	-2.4	-0.9	0.5	1.8	3.0	4.2	5.3	6.3	7.4	8.3	9.2	10.1
+12	-4.9	-3.3	-1.6	-0.1	1.6	2.8	4.1	5.2	6.3	7.5	8.6	9.5	10.4	11.2
+13	-4.3	-2.5	0.7	0.7	2.2	3.6	5.2	6.4	7.5	8.4	9.5	10.5	11.5	12.3
+14	-3.7	-1.7	0.0	1.5	3.0	4.5	5.8	7.0	8.2	9.3	10.3	11.2	12.1	13.1
+15	-2.9	-1.0	0.8	2.4	4.0	5.5	6.7	8.0	9.2	10.2	11.2	12.2	13.1	14.1
+16	-2.1	-0.1	1.5	3.2	5.0	6.3	7.6	9.0	10.2	11.3	12.2	13.2	14.2	15.1
+17	-1.3	0.6	2.5	4.3	5.9	7.2	8.8	10.0	11.2	12.2	13.3	14.3	15.2	16.6
+18	-0.5	1.5	3.2	5.3	6.8	8.2	9.6	11.0	12.2	13.2	14.2	15.3	16.2	17.1
+19	0.3	2.2	4.2	6.0	7.7	9.2	10.5	11.7	13.0	14.2	15.0	16.3	17.7	18.1
+20	1.0	3.1	5.2	7.0	8.7	10.2	11.5	12.8	14.0	15.2	16.2	17.2	18.1	19.1
+21	1.8	4.0	6.0	7.9	9.5	11.1	12.4	13.5	15.0	16.2	17.2	18.1	19.1	20.0
+22	2.5	5.0	6.9	8.8	10.5	11.9	13.5	14.8	16.0	17.0	18.0	19.0	20.0	21.0
+23	3.5	5.7	7.8	9.8	11.5	12.9	14.3	15.7	16.9	18.1	19.1	20.0	21.0	22.0
+24	4.3	6.7	8.8	10.8	12.3	13.8	15.3	16.5	17.8	19.0	20.1	21.1	22.0	23.0
+25	5.2	7.5	9.7	11.5	13.1	14.7	16.2	17.5	18.8	20.0	21.1	22.1	23.0	24.0
+26	6.0	8.5	10.6	12.4	14.2	15.8	17.2	18.5	19.8	21.0	22.2	23.1	24.1	25.1
+27	6.9	9.5	11.4	13.3	15.2	16.5	18.1	19.5	20.7	21.9	23.1	24.1	25.0	26.1
+28	7.7	10.2	12.2	14.2	16.0	17.5	19.0	20.3	21.7	22.8	24.0	25.1	26.1	27.0
+29	8.7	11.1	13.1	15.1	16.8	18.5	19.9	21.3	22.6	22.8	25.0	26.0	27.0	28.0
+30	9.5	11.8	13.9	16.0	17.7	19.7	21.3	22.5	23.8	25.0	26.1	27.1	28.1	29.0
+32	11.2	13.8	16.0	17.9	19.7	21.4	22.8	24.3	25.6	26.7	28.0	29.2	30.2	31.1
+34	12.5	15.2	17.2	19.2	21.1	22.8	24.2	25.7	27.0	28.3	29.4	31.1	31.9	33.0
+36	14.6	17.1	19.4	21.5	23.3	25.0	26.3	28.0	29.3	30.7	31.8	32.8	34.0	35.1
+38	16.3	18.8	21.3	23.4	25.1	26.7	28.3	29.9	31.2	32.2	33.5	34.6	35.7	36.9
+40	17.6	20.6	22.6	25.0	26.9	28.7	30.3	31.7	33.0	34.3	35.6	36.8	38.0	39.0

3.2. Application of the primer

Once the substrate is suitably prepared and has been accepted, a primer needs to be applied prior to the installation of the waterproofing membrane. The main function of a primer is to seal the substrate and enhance an intimate and thorough bond between the waterproofing and the deck to prevent water ingress and tracking at the membrane-substrate interface, which can lead to failure of the waterproofing system in service.

3.2.1. ALSAN REKU Z71 pore-filler & ALSAN REKU P70 bonding primer system

Where the concrete substrate is porous, it would be desirable to seal the surface pores with a low viscosity, penetrating pore-filler. **ALSAN REKU Z71** is an ideal primer for this purpose.

Dosing the **ALSAN CAT** catalyst - table for 23 kg of **ALSAN REKU Z71** resin:

Temperature in °C	ALSAN CAT Catalyst (G)	ALSAN CAT Catalyst (%)
0	1610	7
5	1610	7
10	1150	5
20	690	3
30	460	2

These quantities are necessary for a complete reaction of the resin.

ALSAN REKU Z71 pore-filler is applied to the main surface of a clean and dry concrete substrate. If the pore-filler has already been applied prior to the application of a scratch coat (see section 2.2.2), it will not be necessary to re-apply it.

Special recommendations for pore-filler use on concrete substrates:

Pore-filler coat (where necessary): ALSAN REKU Z71

Consumption: 400 g/m^2 of pure resin. **ALSAN REKU Z71** is recommended for use on porous and/or cracked (static surface and non-structural cracks only) concrete.

Pot life: approx. 20 minutes

Rainproof: approx. 30 minutes

Overcoating: approx. 60 minutes

Full Cure: approx. 2 hours

Note: *resin reaction time starts in the pot when the ALSAN CAT catalyst is added.*

ALSAN REKU Z71 can be poured directly onto the concrete substrate (over the entire surface or around cracks only) and spread out using a roller.

The primer coat must be dry before applying **ALSAN REKU P70** primer. Curing time depends on weather conditions, the quantities applied and substrate porosity of the substrate.

NB: *ALSAN REKU Z71 is always applied before ALSAN REKU P70.*

ALSAN REKU P70 is the bonding primer that promotes adhesion between the waterproofing and the substrate. It is applied to clean and dry substrate over the entire surfaces of the treated areas (main surface, upstands, detail points, longitudinal elements, etc.):

- using a rubber squeegee;
- or using a roller.

The application is made in a single coat and build-up is eliminated.

Dosing the **ALSAN CAT** catalyst - table for 25 kg of **ALSAN REKU P70** resin:

Temperature in °C	ALSAN CAT Catalyst (G)	ALSAN CAT Catalyst (%)
0	1500	6
5	1000	4
15	750	3
25	500	2
30	375	1.5

These quantities are necessary for a complete reaction of the resin.

The primer coat must be dry before applying **ALSAN 573** waterproofing liquid membrane. Curing time varies depending on weather condition and the quantities applied.

Special recommendations for bonding coats on concrete substrates:

Primer coat: ALSAN REKU P70

Consumption: 500-600 g/m^2 of pure resin as a primer and for vertical applications on compliant substrates.

Pot life: approx. 15 minutes

Rainproof: approx. 30 minutes

Overcoating: approx. 60 minutes

Full Cure: approx. 2 hours

Note: *resin reaction time starts in the pot when the ALSAN CAT catalyst is added.*

3.2.2. ALSAN REKU P72 concrete primer

On standard concrete substrates and where the porosity or cracking (non-structural) on the substrate are minimal, a single or two-coat application of **ALSAN REKU P72** can offer a suitable and cost-effective alternative to **ALSAN REKU Z71** and **ALSAN REKU P70** described in the above.

ALSAN REKU P72 is the sealing and bonding primer that promotes adhesion between the waterproofing and the substrate. It is applied to clean and dry substrate over the entire surfaces of the treated areas (main surface, upstands, detail points, longitudinal elements, etc.):

- using a rubber squeegee, or
- using a roller.

Dosing the **ALSAN CAT** catalyst - table for 25 kg of **ALSAN REKU P72** resin:

Temperature in °C	ALSAN CAT Catalyst (G)	ALSAN CAT Catalyst (%)
0	1500	6
5	1500	6
15	1000	4
20	500	2
25	500	2
30	500	2

These quantities are necessary for a complete reaction of the resin.

In most cases, a single coat application is sufficient to seal the substrate and promote adhesion to the subsequent waterproofing membrane. Where the concrete is particularly porous and the primer is drawn into the surface pores (leaving a matt finish), a second coat of **ALSAN REKU P72** primer can be applied once the first coat has fully cured.

Special recommendations for primer on concrete substrates:

Primer coat: ALSAN REKU P72

Consumption: 400 g/m^2 of pure resin as a primer (single coat) and an optional 200 g/m^2 as second coat, if required.

Pot life: approx. 15 minutes

Rainproof: approx. 30 minutes

Overcoating: approx. 60 minutes

Full Cure: approx. 2 hours

Note: *resin reaction time starts in the pot when the* ***ALSAN CAT*** *catalyst is added.*

The primer must be dry before applying **ALSAN 573** waterproofing liquid membrane. Curing time varies depending on weather condition and the quantities applied.

3.2.3. ALSAN REKU 04 metal primer

On steel substrates, ALSAN REKU 04 metal primer must be applied within 3 hours of steel deck preparation to prevent oxidization and surface corrosion of the steel, particularly in humid/subtropical environments.

ALSAN REKU 04 primer protects the steel surface and promotes adhesion between the waterproofing and the substrate. It is applied to clean and dry substrate over the entire surfaces of the treated areas:

- using a roller,
- or alternatively can be spray applied using a single component airless spray pump.

The application is made in a single coat and it is critical to avoid build-up to prevent solvent entrapment in the primer. The primer coat must be dry before applying **ALSAN 573** waterproofing liquid membrane.

Special recommendations for bonding coats on steel substrates:

Primer coat: ALSAN REKU 04

Consumption: 250 g/m^2 of pure resin as a primer.

Approximate drying time: 15 minutes at 25°C.

NB : *The compatibility of the anti-corrosion treatment on the metal structure and the* ***ALSAN REKU 04*** *primer must be checked.*

3.3. Application of ALSAN 573 waterproofing resin

3.3.1. Manual version

The manual version of **ALSAN 573** comes as a single resin component to which the **ALSAN CAT** catalyst must be added to initiate the reaction.

Mixing is carried out in successive stages:

1) Thoroughly mix the **ALSAN 573** resin before use.

2) Add the **ALSAN CAT** catalyst to trigger the reaction. Catalyst dosage depends on the amount of resin and the ambient temperature (see table below). Additional mixing for at least 2 minutes is required to obtain a consistent mixture ready for use.

Dosing the **ALSAN CAT** catalyst - table for 25 kg of **ALSAN 573** resin:

Temperature in °C	ALSAN CAT Catalyst (G)	ALSAN CAT Catalyst (%)
0	1000	4
5	750	3
20	500	2
30	375	1.5

These quantities are necessary for a complete reaction of the resin.

When thoroughly mixed, apply using a notched squeegee, followed by immediate removal of entrapped air using a spiked roller. For manual version, **ALSAN 573** must always be applied in two coats.

When determining the quantity of mixture to be prepared, the reaction time must be considered. For instance, at 23 °C, the important factors are:

Pot life: approx. 10 to 15 minutes

Rainproof: approx. 30 minutes

Overcoating: approx. 30 minutes

Final strength: approx. 180 minutes

Consumption: 2 coats @ 1.3 - 1.5 kg/m^2/mm (min 1mm per coat).

When several coats are applied, a different colour for each coat (green for first coat and grey for second coat) makes each application easier to visualise.

3.3.2. Spray version

ALSAN 573 can be sprayed, even at low temperatures. This version comes as a pre-dosed 2- resin components kit: **ALSAN 573** component A resin and **ALSAN 573** component B resin. Application is carried out using a 2-component airless spray machine with a ratio of 1:1 such as Graco XP50 or equivalent type. The **ALSAN CAT** catalyst must be added to this kit prior to spraying.

Mixing is carried out in successive stages:

1) Thoroughly stir the **ALSAN 573** resin components **A** and **B** SEPARATELY before use.

2) Add the **ALSAN CAT** catalyst to the **ALSAN 573 component B** resin. The dosage of the catalyst depends on the amount of resin and the ambient temperature (see table below).

Dosing the **ALSAN CAT** catalyst - table for 392 / 49 kg of **ALSAN 573 Spray** kit (Comp A + B):

Temperature in °C	ALSAN CAT Catalyst (G)	ALSAN CAT Catalyst (%)
	392kg/49kg	
5	1000	4
10	750	3
20	500	2
30	375	1.5

These quantities are necessary for a complete reaction of the resin.
CAUTION: Add the catalyst only to component B!

Additional mixing of **component B** for at least 2 minutes is required to obtain a consistent mixture ready for use. This mixture does not trigger a reaction. The reaction will only start when the two preparations **(components A and B)** are mixed in the sprayer.

Once the two components have been mixed, application is carried out using a suitable spraying machine. ALSAN 573 is sprayed evenly and uniformly over the entire surface. Use spiked shoes to work without leaving any marks when applying the resin.

When determining the quantity of mixture to be prepared, the reaction time must also be considered. For instance, at 23 °C, the important factors are:

Pot life: approx. 10 to 15 minutes

Rainproof: approx. 30 minutes

Overcoating: approx. 30 minutes

Final strength: approx. 180 minutes

Consumption: Single coat @ 2,6 kg/m^2 (2 mm min.), 2 coats @ 1.3 - 1.5 kg/m^2/mm (min 1mm per coat)

When several coats are applied, a different colour for each coat (green for first coat and grey for second coat) makes each application easier to visualise.

3.4. Application of ALSAN 573 CONNECT-R

Where the bridge deck waterproofing is to be overlaid with a hot asphalt wearing course, a hot melt adhesive tack coat is required to bond the asphalt thoroughly and effectively to the membrane. For this purpose, we recommend **ALSAN CONNECT-R,** which is applied as follows.

Once the **ALSAN 573** waterproofing membrane is cured, tested (as required in the specification) and inspected, it should be clean and dry before commencing with the application of the tack coat, **ALSAN CONNECT-R**.

Stir the **ALSAN CONNECT-R** resin thoroughly before application. Add the correct quantity of catalyst for the amount of resin being used and mix with a slow-speed stirrer for at least 1 minute.

Dosing the **ALSAN CAT** catalyst - table for 25 kg of **ALSAN CONNECT R**:

Temperature in °C	ALSAN CAT Catalyst (G)	ALSAN CAT Catalyst (%)
0	1500	6
5	1000	4
15	750	3
20	500	2
25	500	2
30	375	1.5

ALSAN CONNECT-R is applied using a roller or a squeegee and is spread evenly at the recommended coverage rate.

When determining the quantity of mixture to be prepared, the reaction time must also be considered. For instance, at 23 °C, the important factors are:

Pot life: approx. 15 minutes

Rainproof: approx. 30 minutes

Overlayable: approx. 45 minutes

Consumption:

- 600 g/m^2 for CBM (Hot rolled asphalt),
- 200 g/m^2 for MA (Gussasphalt)

There is no maximum overlay time but only occasional construction traffic is allowed before paving.

3.5. Application of STRATOS 71 & STRATOS 72

Where it is desired to overcoat the bridge deck waterproofing membrane with a textured / coloured resin surfacing instead of a heavier asphalt overlay, **STRATOS 71** or **STRATOS 72** are an ideal choice, providing a flexibilised and durable wearing layer for both pedestrian and vehicular traffic.

The main difference between the two grades is the size and quantity of quartz aggregate and fillers in the the mixture and the selection is based on the required friction / anti-slip and the finish aesthetics.

Both **STRATOS 71** and **72** are offered in a range of colours to suit the application.

Prior to application, the **ALSAN 573** substrate should be clean, dry and free of any contamination. Stir either **STRATOS 71** or **STRATOS 72** until a smooth consistency is achieved. Then the correct quantity of catalyst is added in proportion to the resin and the mixture stirred for at least 2 minutes using a slow-speed stirrer.

Required amounts of catalyst for STRATOS 71

Table for 15 kg pack

Temperature in °C	ALSAN CAT Catalyst (G)	ALSAN CAT Catalyst (%)
0	450	3
5	450	3
15	300	2
20	300	2
25	300	2
35	225	1.5

Required amounts of catalyst for STRATOS 72

Table for 15 kg pack

Temperature in °C	ALSAN CAT Catalyst (G)	ALSAN CAT Catalyst (%)
0	600	4
5	600	4
15	600	4
20	450	3
25	300	2
35	300	2

Both **STRATOS 71** and **72** are applied with a trowel and smoothed over the substrate. Depending on the specific requirements, the surface can be finished with a textured roller.

When determining the quantity of mixture to be prepared, the reaction time must also be considered. For instance, at 23 °C, the important factors are:

Pot life: approx. 15 minutes

Rainproof: approx. 30 minutes

Overlayable: approx. 45 minutes

Loadable: approx. 120-180 minutes

Consumption: STRATOS 71 @ 1 to 2 kg/m2, **STRATOS 72** @ 3.5 kg/m2

04. Overview of the various systems

Categories / Systems (Primer selected as per substrate)	Class A  Road bridges with asphalt overlay	Class B  Pedestrian & cycle bridges with resin/ aggregate overlay	Class C  Structures requiring waterproofing with no protection and none or occasional light traffic	Class D & E  Trafficked structures with either resin/ aggregate overlay or concrete / asphalt protection over waterproofing	Class F  Ballasted rail bridges & underground backfill
ALSAN 573 ALSAN CONNECT R Guss/ Mastic or Hot Rolled Asphalt	**Optimum (2-coat) solution (2 or 3 mm - As specified):** 1.3-1.5 kg/m²/mm 2mm (min): 2.6-3.0 kg/m² 3mm (min): 4.0-4.5 kg/m² 200- 600 g/m² As specified	Contact Us technical@soprema.co.uk		**Alternative solution:** 1.3 – 1.5 kg/m²/mm 2mm (min): 2.6-3.0kg/m² 200 - 600 g/m² As specified	**Alternative solution:** 1.3 – 1.5 kg/m²/mm 2,5mm (min): 3.3-3.8 kg/m² 200 - 600 g/m² As specified
ALSAN 573 **ALSAN 970 F**	Contact Us technical@soprema.co.uk		**Basic solution:** 1.3 – 1.5 kg/m²/mm 2mm (min): 2.6-3.0kg/m² 400-500 g/m² (optional finishing sealer)	Contact Us technical@soprema.co.uk	
ALSAN 573 STRATOS 71	Contact Us technical@soprema.co.uk	**Light traffic:** 1.3 – 1.5 kg/m²/mm 2mm (min): 2.6-3.0kg/m² 1 – 2 kg/m²	**Occasional traffic:** 1.3 – 1.5 kg/m²/mm 2mm (min): 2.6-3.0kg/m² 1 – 2 kg/m²	Contact Us technical@soprema.co.uk	
ALSAN 573 STRATOS 72	Contact Us technical@soprema.co.uk	**High traffic:** 1.3 – 1.5 kg/m²/mm 2mm (min): 2.6-3.0kg/m² 3.5 – 4.0 kg/m²	**Heavy textured antislip:** 1.3 – 1.5 kg/m²/mm 2mm (min): 2.6-3.0kg/m² 3.5 – 4.0 kg/m²	Contact Us technical@soprema.co.uk	
ALSAN 573 ALSAN 870 RS ALSAN 970F OR STRATOS 71/72	Contact Us technical@soprema.co.uk	**Optimum Solution:** 1.3 – 1.5 kg/m²/mm 2mm (min): 2.6-3.0kg/m² 4.0 kg/m² + quartz broadcast 600 g/m2 or 1.5kg/3.8 kg	Contact Us technical@soprema.co.uk	**Optimum Solution:** 1.3 – 1.5 kg/m²/mm 2mm (min): 2.6-3.0 kg/m² 4.0 kg/m² + quartz Broadcast 600 g/m2 or 1.5 kg/3.8kg per m²	Contact Us technical@soprema.co.uk
ALSAN 573 **Concrete slab/ backfill**	Contact Us technical@soprema.co.uk			**Alternative solution:** 1.3 – 1.5 kg/m²/mm 2mm (min): 2.6-3.0kg/m² As per specification	**Alternative (2coat/2.5mm):** 1.3-1.5kg/m²/mm 2.5mm (min): 3.3 – 3.8 kg/m² No Protection
ALSAN 573 Geotextile or Ballast Mat	Contact Us technical@soprema.co.uk				**Optimum (2coat /2.0mm):** 1.3-1.5 kg/m²/mm 2.0mm (min): 1.6 – 3.0 kg/m² Heavy geotextile or ballast mat protection

05. Finishes

5.1. With Asphalt overlay (Category A)

This solution is used for areas exposed to primarily higher speed vehicular traffic, such as bridges. Unless there is a special request, laying the asphalt is not generally part of the waterproofing contractor's job.

Before laying asphalt over **ALSAN 573**, a coat of **ALSAN CONNECT R** is required. This provides optimum adhesion to the wearing layer over the **ALSAN 573** system.

5.2. Without a wearing layer, directly trafficable finish (Category B)

For low traffic areas (pedestrians, bicycles, car parks, platforms between rails, service areas, etc.),

ALSAN 573 liquid waterproofing can be applied with an immediately trafficable finish.

In this case, **STRATOS 71** finish for low traffic areas or **STRATOS 72** finish for more intensive traffic areas with a higher non-slip finish should be used.

5.3. Without protection (Category C)

ALSAN 573 resin can be left exposed directly to U.V. rays on non-traffic structures and for treating technical details (concrete sideways, salient elements, etc.). However, merely for decorative or improved aesthetics, a light topcoat of **ALSAN 970 F** would be an optional finishing sealer.

ALSAN 970 F

Consumption: 400 to 500 g/m^2 of resin.

Pot life: approx. 15 minutes

Rainproof: approx. 45 minutes

Final strength: approx. 3 hours

Note: *resin reaction time starts when the ALSAN CAT catalyst is added.*

5.4. With resin mortar wearing layer (Categories B and D)

This solution is used for areas exposed to lower speed vehicle traffic, in applications such as car parks. **ALSAN 870 RS** self-levelling mortar is applied over the cured coat of **ALSAN 573**. This solution provides continuity in terms of materials and execution, as it is generally the waterproofing contractor that applies it.

ALSAN 870 RS

Consumption: 4 kg/m^2 of previously mixed resin (10 kg **ALSAN 870 R** for 23 kg **ALSAN 870 S**).

Pot life: approx. 15 minutes

Rainproof: approx. 30 minutes

Final strength: approx. 3 hours

Note: *resin reaction time starts when the ALSAN CAT catalyst is added.*

ALSAN 870 RS is then ready for a topcoat of **STRATOS 71** or **STRATOS 72** as stated previously.

5.5. With concrete wearing layer (Category E)

This solution is used for areas exposed to vehicular traffic. The concrete slab (reinforced or not) will be cast over the last sand-finished **ALSAN 573** coat. If steel reinforcement is used, rebars should be placed on spacers.

5.6. With paved wearing layer (Category E)

This solution is used for areas exposed to vehicle traffic. The sub-base sand layer of the pavement is laid directly on top of the last **ALSAN 573** coat.

5.7. Structures under ballast or backfill (Category F)

5.7.1. Under ballast

The **ALSAN 573** has successfully passed the resistant to ballast penetration SNCF's Vibrogyr test with the following systems:

- **ALSAN 573** 2,5 mm thick without additional protection
- **ALSAN 573** 2,0 mm thick with a **SOPRAFEUTRE BALLAST** geotextile protection

5.7.2. Under backfill

For applications under backfill, a protection based on **GEOLAND MC** textile or **GEOLAND TTX** geocomposite will be placed on top of the **ALSAN 573** prior the backfill depending on the size of its biggest elements.

A layer of **GEOLAND MC 700** will be used for sand or fine soil backfill.

A layer of **GEOLAND MC 1200** will be used under rolled materials with a max diameter of 100 mm.

Two layers of **GEOLAND MC 1200** will be used under crushed materials with a max diameter of 200 mm.

GEOLAND TTX 10 will be used for other types of backfill.

5.8. Temporary protection

If definitive protection cannot be provided immediately, temporary protection is not necessary but may be desirable in the following situations:

Exceptional pedestrian and vehicle traffic or storage

GEOLAND TTX for a hard-wearing and easy to remove protection (preferred solution).

Layer of sand or ungraded aggregate with a minimum thickness of 10 cm on a 300 g/m^2 minimum geotextile (e.g. **GEOLAND HT 300** type).

NB: This temporary protection will be removed just before the contractors in charge of permanent protection begin work.

Caution: removal can be difficult, and damage may occur to the waterproof coating. A visual inspection of the swept final surface must be conducted by the Waterproofing Contractor before applying the protective coats.

Trafficable protection (able to withstand all types of construction site traffic)

An asphalt layer at least 4 cm thick with prior application of the **ALSAN CONNECT R** bond coat.

5.9. Track bed drainage

Surface water drainage must be provided by an efficient drainage system with sufficient gradients, gutters and downspouts.

The bituminous concrete mixes commonly used as wearing courses on bridges are permeable. As a result, water tends to flow along the waterproofing/wearing course interface.

A drainage system must therefore be laid including:

- Sub-surface drains laid crosswise to traffic flow, along the pavement joints
- Sub-surface longitudinal drains, which will be treated according to local regulations and recommendations

The main objective of longitudinal drainage is to collect water run-off in the cross section of the structure from the low points of the waterproofing system.

Longitudinal drains must be laid on the waterproofing, before the bituminous concrete mixes are laid, along the run-off or curb side, at places where water flow is interrupted by a watertight obstacle, as well as in sidewalks when a concrete filling is poured over the waterproofing.

Outlets from longitudinal drains must be close enough together to comply with surfacing tolerances of the deck upper surface and the longitudinal profile, which is generally much gentler than the cross- profile. They should be independent from transverse drains, particularly upstream from the track bed joints.

The drainage system may additionally include rectangular aluminium drains with slits, stainless steel spiral drains, or draining geo-composites.

06. Upstands and details

6.1. Joints

Joints are treated in accordance with site specific conditions, width and the design movements.

Once a suitable joint is defined, contact technical@soprema.co.uk or your sales representatives for further information on detailing.

6.2. Upstands

Upstands and details can be waterproofed using either of the following products:

- the sprayed version of the **ALSAN 573**. In this case, the process is the same for all surfaces.
- the manual version of the **ALSAN 573**. In this case, an **ALSAN 071** (liquid) thixotropic additive or **ALSAN 071 P** (powder) must be added at a rate of 1 to 3%.

In all cases, using **ALSAN 573** liquid membrane makes it possible to easily waterproof upstands and detail points. Junctions, upstands and corners are treated with an initial stripe coat of the liquid membrane at 1.3 - 1.5 kg per m^2 at all corners and angles of the detail or the upstand. This is allowed to cure before a subsequent coat of the membrane is applied by spray or manually, using a roller. A second coat of waterproofing membrane is then applied on the initial coat to furnish the detail.

6.3. Fitting rainwater outlets

All gutters and rainwater downpipes can be carried out using SOPREMA-compatible processes. These can be prefabricated elements such as DRAINI ALSAN or directly using ALSAN 573 resin (without reinforcement).

Where a proprietary outlet is used, **ALSAN 573** liquid membrane is detailed and overlapped onto the drainage outlet as with any other upstand or feature detail on the bridge deck. When using DRAINI ALSAN, the fleece flange is placed between the two layers of **ALSAN 573** resin.



6.4. Connection between concrete and metal substrates

The appropriate primer is first applied (**ALSAN REKU P72** on concrete support and **ALSAN REKU 04** on metal support). Then the junction between the two elements is spanned with a debonding tape, no wider than 3-5 times the gap between the two.

The **ALSAN 573** is then applied continuously across the two substrates and finished to a specified marked edge.

6.5. Overlap at day joints

Where new **ALSAN 573** liquid membrane is to be joined to an existing and cured **ALSAN 573** membrane at a day joint, the overlap to the existing should be at least 50 mm.

No additional preparation on the existing membrane is necessary unless it is contaminated and/or dirty, in which case the lap edge should be cleaned with a cloth soaked in a suitable solvent cleaner, such as **ALSAN 076** or acetone.

07. Quality assurance

7.1. General

Comply with the safety data sheet for the products to be used.

Any abnormality in the appearance or behaviour of materials must always result in the removal, at least temporarily, of these materials.

7.2. Production and delivery inspection

The products are manufactured by the SOPREMA group. The production facilities are EN ISO 9001- certified.

The products are subjected to quality control throughout their manufacture, packaging and shipment.

ALSAN 573 is packaged in several formats:

- 25 kg for the manual version
- 49 kg (25 kg Comp. A + 24 kg Comp. B) and
  392 kg (200 kg Comp. A + 192 kg Comp. B) kits for the sprayed version

The packaging is labelled with:

- name and product number
- net weight

Each container has an internal control number used to retrieve all manufacturing and self-checking data relating to the product. These control sheets can be supplied on request or in case of doubt.

At the time of delivery, the Waterproofing Contractor will record the manufacturing numbers, check the packaging and the compliance of the materials delivered.

7.3. Personnel training

SOPREMA's technical services provide support to all contractors through training sessions in the SOPREMA training centres and / or directly on site (contact technical@soprema.co.uk or sales representatives).

7.4. Site quality assurance

The Waterproofing Contractor must complete a site QA and Materials Record sheet (see example in Appendix) for each day of application of any component of the ALSAN 573 system and retain the records for a minimum of 3 years.

7.4.1. General

Visual inspection will consist of checking that the provisions described in Section 2 are implemented. In addition, other checks may be performed before, during and after the implementation.

7.4.2. Trial tests

The Waterproofing Contractor will perform suitability tests on a trial section of approx. 1 m^2 to validate the general application of the process, notably:

- adhesion tests: the individual adhesion values obtained following the pull-off tests (as per test standard ISO 4624) must correspond to a value greater than the Project requirements or, in the absence of any, 1MPa.
- thickness tests: on round or square tabs torn off following the coating adhesion tests. Film thickness is measured using a 100 µm precision magnifying micrometer (EN ISO 2808). The average of 10 measurements on tab constitutes local thickness. This thickness must be greater than the minimum requirement. Average thickness is determined using a statistical approach based on local thicknesses as per the ISO 12491 and ISO 2854 standards.

7.4.3. Prepared Substrate inspection

The substrate must be inspected and approved by the Waterproofing Contractor before work commences.

The surface texture and profile should be prepared to conform to an appropriate local, national or international standard finish as defined in the project specification (see 2.2.1 for concrete substrates and 2.3.1 for steel substrates).

7.4.4. Testing during application

During the application, the following measurements must be recorded:

- Ambient and substrate temperature and relative humidity conditions (see 3.2. for dew point chart);
- Time and method of application;
- Thickness measurements of the waterproofing layers using a wet film gauge and recording of the daily consumption;
- Adhesion tests (minimum of six tests per every 500 m^2 and for smaller bridges a minimum of six tests shall be performed).

It should be noted that **ALSAN 573** system allows all adhesion control tests to be performed by zone before each application and thus avoid performing destructive tests afterwards, which require repair of the continuous waterproofing film.

To do this, after preparing the substrate and before starting waterproofing work on the area, the following tests should be performed:

- Apply the primer(s) to random spots (approximately 20 cm x 20 cm) representative of the area to be coated;
- Apply **ALSAN 573** resin directly on the metal plates required for the tests (previously prepared and coated with **ALSAN REKU 04** primer for metal substrates) and place on the primed areas;
- Once the resin has cured, pull-off tests are performed quickly to confirm the results before applying the resin to the entire surface.

The results of the direct reading in N must be converted into MPa or N/mm^2.

Results are satisfactory if they exceed 1 MPa or supersede the minimum local requirements.

If the result is not satisfactory, the test may be repeated. If the new test is unsatisfactory, the area shall be further prepared until an acceptable substrate is found.

7.4.5. Continuity test after application

Checking the continuity of the membrane (non-destructive testing): a visual and dielectric brush-type acceptance test shall be carried out before applying a) the second coat of the membrane (where a two-coat system is specified), b) the tack coat or c) the resin/bituminous asphalt surfacing layer. The visible surface of the membrane must be free of pinhole defects.

Walk the entire area of the membrane with a pinhole detector and highlight any defects by marking the area.

In case of presence of pinholes, the snagging (local repair) can then be carried out using the **ALSAN 573** Manual or by mixing an equal quantity of Parts A and B of **ALSAN 573** Spray grade in a small pot with an appropriate amount of the catalyst **ALSAN CAT**.

Apply the repair material by pouring it onto the defect and spreading it with a trowel to a minimum thickness of 1mm. Ensure the entire defect area is covered by spreading the material evenly rather than brushing it out.

Allow the snagged areas to fully cure before commencing with the next stage of application.

7.5. Subsequent work

Applying waterproofing is one of the tasks involved in completing a project. Each successive phase must take into account the presence of the waterproofing system so as not to damage it.

Before the wearing layer is laid, a visual inspection must be carried out to check the integrity of the waterproofing.

If the waterproofing is accidentally damaged, the team in charge of applying it must be notified so that a satisfactory repair can be carried out. Repairing the damage at this stage is inexpensive compared to repairs at a later stage.

7.6. Subsequent repairs

Where non-conformities have been reported or any part of the system is damaged in any way, the relevant areas should be clearly identified, marked, and then repaired using the right system:

- Cut back the damaged area to sound material using straight lines to form a uniform rectangular
- shape.
- If the system has been damaged through to the substrate, then clean and mechanically remove any loose particles or contaminants. If necessary, re-profile the damaged substrate with **ALSAN REKU P72** with added silica (see §2.2). Otherwise, just prime the exposed substrate with the appropriate primer.
- If the area around the damaged spot is contaminated, dirty or coated with tack coat or another finishing layer, remove these from the periphery of the repair area to a minimum of 150mm, using a solvent soaked cloth.
- Mask the area for repair with an overlap onto existing membrane by at least 50mm to ensure a neat finish.
- Apply the manual version of **ALSAN 573** in one or two coats depending on the system, around the periphery of the repair.
- Once the membrane has cured, re-instate the required finishing layer or the tack coat onto the repaired membrane, if required.

7.7. Waterproofing work acceptance

All acceptance results shall be recorded in a technical file presenting the type and configuration of the waterproofing system.

08. Restrictions on use

If you have any doubts regarding the use of ALSAN 573 resin, please contact SOPREMA technical department at:

SOPREMA UK
Lady Lane Industrial Estate
Hadleigh
Ipswich
Suffolk
IP7 6BA
T +44 (0) 1473 822093
E-mail: technical@soprema.co.uk

09. Standard purchase order

Functions	Products		Quantity	Surface area	Total
Primer	Pore-filler	ALSAN REKU Z71	200 to 600 g/m²		
	Catalyst	ALSAN CAT	2 to 7% of weight		
	Concrete substrates	ALSAN REKU P70	500 g/m²		
	Catalst	ALSAN CAT	1.5 to 6% of weight		
	Concrete substrates	ALSAN REKU P72	250 to 400 g/m²		
	Catalyst	ALSAN CAT	2 to 6% of weight		
	Metal substrates	ALSAN REKU 04	200 to 250 g/m²		
Waterproofing	Manual grade	ALSAN 573	1.3 to 1.5 kg/m²/mm		
	Catalyst	ALSAN CAT	1.5 to 4% of weight		
	Spray grade	ALSAN 573 comp. A and B	1.3 to 1.5 kg/m²/mm (1:1 ratio)		
	Catalyst	ALSAN CAT	1.5 to 4% of weight of ALSAN 573 resin comp A+B		
	Liquid thixotropic	ALSAN 071	1 to 3% of total resin weight		
	Powder thixotropic	ALSAN 071P	1 to 3% of total resin weight		
Bond coat	ALSAN CONNECT R		200 to 600 g/m²		
	ALSAN CAT		1.5 to 6% of weight of resin component		
Wearing	ALSAN 870 RS		4 kg/m²		
	ALSAN CAT		1.5 to 6% of weight of resin component		
Finishing	ALSAN 970 F		350 to 400 g/m²		
	ALSAN CAT		1.5 to 6% of weight		
	STRATOS 71		1 to 2 kg/m²		
	ALSAN CAT		1.5 to 3% of weight		
	STRATOS 72		3 to 5 kg/m²		
	ALSAN CAT		2 to 4% of weight		
Tools	Roller				
	Squeegee				
	Mixer				
	Spiked Roller				
	Spraying machine				

10. Product manufacturing

ALSAN 573 is manufactured by the SOPREMA group. The production facilities are EN ISO 9001-certified.

ALSAN 573 is a PMMA-based liquid waterproofing resin and meets the requirements of the EAD 030675-00-0107 (formerly ETAG 033) European Standard.

11. Application and technical support

At the Contractor's request, SOPREMA provides technical assistance for the product to be used and during worksite installation.

SOPREMA is committed to responding to all its customers' requests. Its representatives can provide technical assistance.

12. Maintenance

If the resin remains visible, a regular visual check is necessary.

If the resin is no longer visible once construction work has been completed, there is no specific maintenance to be carried out on these waterproofing systems. Only routine maintenance is necessary (notably regular cleaning of downspouts).

13. Prevention

13.1. Safety

Products safety data sheets include all instructions relating to the use of these products in proper safety conditions. Their use is reserved for qualified persons trained to apply them.

13.2. Storage precautions

Product quality and properties remain unchanged for a very long time. Nevertheless, for optimal effectiveness, the product should be applied within 12 months. The date of manufacture should be checked before application.

Keep the resin in its original packaging and store in a dry, sheltered place and at a temperature between +5 °C and +40 °C.

The catalyst, **ALSAN CAT** should be kept cool, dry and protected from frost and it must be stored separate from the resins. Direct sunlight on **ALSAN CAT** containers should be avoided, including on site.

Comply with the safety data sheet for the product used.

Appendix

Waterproofing Contractor QA & Materials Site Record

Weather Conditions:

Authorised Contractor _____ Contract _____ Date _____

Substrate Type _____ Type of Surface Prep _____ Substrate Approved _____ System: _____

Operation	Pt A or B	Batch Number(s)	Start Time	Finish Time	Material Usage			Application Method (i.e. spray or roller)	% RH	Air Temp (^{0}C)	Deck Temp (^{0}C)	Dew Point
					Area (m^2)	Qty (kg)	Coverage					
Primer (specify)												
Membrane 1st Coat (specify)												
Membrane 2nd Coat (specify)												
Binder (specify)												
Aggregate Overscatter (specify type & size)												
Tack Coat/Sealer (specify)												
Other (specify)												

Adhesion Tests -Location-	Failure Stress N/mm^2	Failure Mode

Detailed Sketches of Work Done & Precise Location of adhesion tests:

Signed: _____

Print Name: _____
(On behalf of Authorised Contractor)

Signed: _____

Print Name: _____ On behalf of _____
(Client)

Additional Comments:

SOPREMA at your service:

Do you have a question about a specific project, the products or application possibilities?
Then contact our technical team at:
technical@soprema.co.uk

All information can be found on:
www.soprema.co.uk

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SOPREMA

SOPREMA group attaches great importance to quality and therefore operates in accordance with the internationally recognised, independently audited and certified quality system EN ISO 9001 - ISO 14001. SOPREMA group reserves the right, depending on the evolution of knowledge and techniques, without notice to change the composition and terms of use of its products.

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